says: "It is working out in the body of a law which obtains throughout all nature."

In the twenty-first edition of Dunglison's dictionary, vis medicatrix naturae is defined, "Instinctive healing power in an animal or vegetable, by virtue of which it can repair injuries inflicted upon it, or remove disease." Gould, third edition, "The healing power of nature apart from medical treatment."

The teachers of medicine evidently think they have done their duty to medical students by teaching them the science of medicine. And yet they are supposed to prepare students to practice medicine. They teach the use of all the apparatus that make for the scientific diagnosis and treatment of disease. They do not teach psychotherapy; they do not even mention vis medicatrix naturae. This important branch of every physician's routine practice is left for the physician to learn by experience. Some 500 years ago Ambrosé, the distinguished French surgeon, wrote on the wall of the ecole de medicene, "Je le pansay et Dieu le guarit" (I dressed the wound, God healed it). The advanced modern surgeon would say, "I dressed the wound (antiseptically), that mysterious (power) vis medicatrix naturae healed it."

The physician who depends entirely upon science for the diagnosis and treatment of his patient must often fail to relieve or cure the complaint of which the patient suffers or thinks he suffers. In very many cases the patient needs a placebo, given with the assurance that he will soon be well. As a rule, patients care nothing for an elaborate, expensive and scientific examination; they want to be cured. Playfair, in the British Medical Journal, says, "The tendency of advanced medicine of the present day is, unfortunately, to overlook cure in the zeal for accurate diagnosis and correct pathology. In short, it is science rather than therapeutics that is the aim." I have already stated that therapeutics, the treatment of disease, is not a science and never can be. "Coming events cast their shadows before." The time will soon be when teachers in our medical schools will teach psychotherapy. This important branch of the practice of medicine, will not be left to the cults. The facts are, if vis medicatrix naturae had been taught and appreciated by the profession there would be fewer cults today.

There are only a few left over, as it were, who do not believe that nature ever cured anyone, who do not believe in vis medicatrix naturae, nor do they recognize the conscious or unconscious mind or the influence of the mind on the body. With a scientific education, well-grounded in the foundation of the science and practice of medicine including psychotherapy, the future physician will not leave an important branch of practice to cults and ignorant quacks. Who is to blame for this disgraceful condition? When medical schools wake up to the fact and teach that vis medicatrix naturae occupies a large part of every physician's daily practice, their graduates will be of much more service to the people and there will be a change in present conditions, but not until then.

SOME PHASES OF GONORRHEAL COMPLICATIONS AND THEIR PREVENTION BY ATTENTION TO CERTAIN POINTS IN THE TREATMENT OF ACUTE GONORRHEA*

By JAMES STEINBERG, M. D., Los Angeles

One of the most interesting cases of multiple complications arising from an original Neisserian infection of the anterior urethra, came into my service at the Kaspar Cohn Hospital in Los Angeles about one and a half years ago, showing the extensive complications that may occur in a single instance, following an apparently simple acute anterior gonorrheal urethritis. The case should serve as a warning against the consideration of this infection in too light a manner.

The cystoscopic findings, in conjunction with the X-ray and bacteriological examinations should prove instructive as well as interesting in showing their inestimable value in the complete ultimate analysis of these cases. The case I wish to cite is as follows:

Mr. H. S., 31 years old, an iron worker by occupation. He was admitted to the hospital, running a temperature of 103 degrees, unable to void through the anterior urinary canal, complaining of continuous pain over the bladder and scrotal regions. He gave a history of previous Neisserian infection as follows: First infection of gonorrhea ten years previously, lasting six weeks, followed by a second infection six years later, lasting two months. This second infection was complicated by stricture of the urethra. A third infection of gonorrhea was acquired two years later, lasting five weeks. Syphilis was denied. He was operated upon for a right inguinal hernia seven years before. For the past two years the patient has noticed that his stream has been gradually becoming smaller and his urine more difficult to pass. Two months ago the scrotum began to swell, gradually increasing in size. This was accompanied by great pain, chills, and fever. Two weeks later the scrotum ruptured, discharging urine and pus. After that the patient passed most of his urine through the sinus in the scrotum.

Preliminary objective examination revealed the scrotum to be a large gangrenous mass, about the size of a good-sized grape fruit, very foul-smelling, inflamed, and discharging dark, thick, yellowish-brown pus and urine. The urethra revealed an impassable stricture at the bulbo-membranous junction. A smear of the pus from the discharging sinus in the scrotum revealed the staphylococcus, and colon bacilli, but negative for tubercle bacillus and gonococcus.

I performed a preliminary operation on March 5, 1921, to reduce the inflammatory mass. The scrotum was laid wide open and all the gangrenous tissue removed. A sinus was disclosed in the inflammatory scrotal mass, through which the patient passed his urine. The scrotum was sewed up and a drain left in the wound. Within twenty-four hours the temperature began to subside, and the patient was quite comfortable.

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A few days later I passed a filliform bougie through the stricture at the bulbo-membranous junction, with the aid of the Buerger universal operating urethrascope, attached a urethratome, and performed an internal urethrotomy. A permanent rubber catheter was inserted through the anterior meatus into the bladder, because of excessive hemorrhage, and left in place for two days, after which time it was removed. Following this procedure, the patient voided a good-sized stream. Daily irrigations of the bladder were then instituted and the urethra kept open by subsequent dilation. The bladder urine at this time was cloudy and full of pus. A smear of the secretion expressed from the prostate showed many pus-cells.

The patient began to improve under general and local treatment with massage of the prostate, bladder irrigations and irrigation of the wound, which healed very rapidly. The urine had now stopped coming through the scrotal sinus.

At the end of several weeks, the patient was cystoscoped, with the result that the examination disclosed a cystitis and a moderate double pyelonephritis with both kidneys showing, however, very little impairment of function, and no obstruction in either ureter. X-ray examination revealed no calculi nor any other abnormalities in the upper urinary tract. Bacteriological examination revealed the pyelonephritis to be due to the colon bacillus. Both kidney pelves were irrigated with boric acid solution, followed by injection of the pelves and ureters with a 1-500 solution of silver nitrate. This process was repeated ten times at intervals of six to seven days, until the specimens from both kidneys were clear of pus. The strength of solution of silver nitrate was gradually increased with each succeeding treatment until 1 per cent was reached. The bladder irrigations were continued daily during this time, as were also the urethral dilatations with the posterior Kollman dilator, together with prostate massage at less frequent intervals, until, at the present time, the patient has been freed of infection, and is passing a good-sized stream. He is now being treated only to keep the urethra wide open and prevent any possible contraction at the site of the old stricture.

The case herein cited will serve to bring to your attention the importance of proper and thorough treatment of early gonorrhea, that such a succession of unfortunate complications as occurred in the above case may be avoided. In a large majority of cases it lies within the power of the physician treating the case to take the proper precautions in order to prevent such serious and extensive involvement. The fact should not be lost sight of that every case of acute gonorrheal anterior urethritis is a potent factor in the possible production of dangerous complications resulting, in some instances, in very grave and permanent danger to the urogenital tract.

There are a number of important factors to be considered in the early treatment of acute gonorrhea, such as proper diet, rest, and an abundance of fluids to keep the anterior urethra constantly washed and drained out from above. The position of the penis should be considered very carefully when fitting a suspensory. This should be worn so that it does not constrict or bind the urethra, nor should it elevate the glans so that it is brought up toward the abdominal wall. In this position the pus, instead of running out of the meatus, will go the other way and increase the possibility of posterior involvement. No local injections should be used for the first few days of the acute infection. The silver salts are particularly contra-indicated during this time, as they aggravate the inflammation and increase the pus.

The treatment should commence by the administration of internal medication, a proper amount of rest with restraint from physical exertion, and a bland diet with elimination of spices, condiments, acids, red meats, alcohol, and any other articles of food which might irritate the urinary tract, in conjunction with an abundance of fluids to relieve the acute symptoms. The formula which I have found to produce the quickest relief and most satisfactory results in reducing the discharge and allaying the stinging and burning of the acute urethral inflammation, consists of a combination of codeine 1/6 grain, tincture of belladonna 10 gtts., urotropin 5 grains, and palmathol as a vehicle to 1 drachm. This is administered in 1 drachm doses in a glass of water every three hours.

In allowing the patient to handle his own local medication, he should be carefully instructed in the proper method of procedure in the technique of injection of the anterior urethra. Particular stress should be laid, and the patient cautioned, to correctly follow religiously every single detail. Therein lies the secret of success or failure. He should be taught how to sterilize both the syringe and the penis, and especially cautioned to inject the solution slowly and smoothly, and not to overdistend the anterior urethra.

Careful attention should be given to the strength of solution and method of injecting the anterior urethra with the silver salts. Strong solutions should never be used. I believe that more complications are brought about by faulty manipulation of local injections than any other one thing.

The patient is given 2 ounces of a 5 per cent solution of freshly prepared argyrol and a bulb urethral syringe. It is unwise to provide the patient with more than one week's supply of any organic silver salt, for at the end of that time the solution has commenced to deteriorate. The bulb syringe is much safer to prescribe than the piston syringe. It is cleaner, easier to handle, and the solution can be injected much more smoothly and without jerking. This is almost impossible with the average piston syringe.

The patient is instructed to boil the syringe, draw up 1 drachm of solution, and set the syringe aside. He then voids and thoroughly washes the penis with soap and water. The next step is to grasp the penis just behind the corona with the middle and ring fingers of the left hand, holding the lips of the meatus apart with the thumb and fore-finger. Holding the syringe parallel with the body of the penis, and firmly fixing the blunt-nosed tip of the syringe against the meatus, he injects the solution very slowly. It is allowed to remain

in the anterior urethra from three to four minutes, by closing the meatus with the thumb and forefinger of the left hand. The patient should be cautioned not to compress the urethra behind the meatus to try and keep the solution from entering the posterior urethra, as serious consequences might ensue. At the end of from three to four minutes, or sooner if it burns, the solution is allowed to flow out. The patient should not void immediately after. The penis is then placed in a gauze bag, with a small piece of cotton at the bottom. The patient is cautioned to have the bag large enough so that the meatus does not touch the cotton, as the pus will stick to the meatus and thus keep reinfecting the urethra.

This method of injection is carried on for a varying period of from five to seven days, three to four times a day until the acute inflammation has subsided. The patient should always void before going to bed, for if the argyrol is left in the urethra over night, it will irritate and increase the discharge. At the end of this period, the argyrol solution is replaced by a ½ per cent solution of protargol for three to four days, and then increased to 1 per cent.

During the course of the treatment, the patient is seen every other day, the urine tested, a smear taken, and all the points in the technique of injection checked up.

If the discharge does not entirely clear up with this treatment after two to three weeks, and there are no gonococci present, an astringent injection may be used twice a day in the form of zinc sulphate, 4 grains, and liquor plumbi subacetatis, 3 ounces.

The argyrol is used at first because it is less irritating than protargol in the very acute inflammatory stage. After this, however, it becomes ineffective and must be supplanted by protargol.

The injection method of treatment, as above described, is continued for from twelve to fifteen days, at the end of which time the average uncomplicated anterior urethritis will have subsided. There will be no discharge, and the urine should be clear. The final test should then be taken by gently milking out the glands in the anterior urethra, and another specimen examined by massaging the prostate. If no pus or gonococci can be found, the patient is cured. In any case where there might be a doubt as to the question of a cure, cultures should be made from both the urethra and the prostate, and then the specimens examined.

Prostate massage is absolutely contra-indicated during the course of an uncomplicated anterior urethritis, as it will tend to produce a posterior infection. Vaccine therapy is also contra-indicated, as it is in any other active acute inflammatory process.

Thus we may see that the treatment of every case of the anterior urethra is a very serious matter, and should be so considered. The treatment should be conducted with all due regard and proper precaution toward the prevention of extension of the inflammatory process by paying particular attention to every detail in management and properly guiding the patient in all the various points of technique.

When complications have already been acquired, and especially in long-standing cases, as illustrated in the above example, where it was reasonable to suppose that the patient had acquired extensive involvement of the genito-urinary tract, it is absolutely essential to study each separate complication in detail. This is imperative, particularly in long-standing cases of bladder infection which do not clear up under treatment. In every such case, the patient should be cystoscoped and the ureters catheterized to determine the presence or absence of pyelitis, and the presence or absence of obstructions in the ureters, which might prevent the proper drainage from the kidney pelves. X-ray examination should be conducted as a routine to determine the presence or absence of calculus, the size and position of the kidneys and any abnormalities in the kidneys or ureters. Bacteriological examination will determine the type of infection. The kidney pelves, if infected, must be properly treated until the infection has been completely eliminated from them, as demonstrated in the above case. This must necessarily be accomplished before a cure can be expected.

In addition to daily bladder irrigations and treatment of the urethral stricture as indicated in the above case, together with massage of the prostate every four to five days when there is an accompanying chronically infected prostate, as soon as the patient has been cystoscoped, the ureters catheterized and a pyelitis has been established, lavage of the kidney pelves should be instituted. The patient should be cystoscoped, the ureters catheterized, and the kidney pelves irrigated with boric acid solution followed by injection of a 1 to 500 solution of silver nitrate every five to seven days. This is continued, gradually increasing the strength of solution of silver nitrate by one-tenth of 1 per cent gradations to 1 or 1½ per cent until the specimens from both kidneys are clear and the pus has entirely disappeared.

The instructive points of value to be learned from this case are:

1. The importance of prophylactic management, and the necessity of extreme care in properly carrying out each detail in the technique of treatment of a case of acute gonorrheal anterior urethritis, in order to prevent complications.

2. The necessity of exhaustive study of complicated cases to determine the extent of involvement of the infective process with a view toward eliminating infection of the upper urinary tract.

3. The inestimable value of cystoscopy, together with catheterization of the ureters, X-ray, and bacteriological examination in these complicated cases to determine the full extent and type of the infection, the presence or absence of obstruction in the ureters, or any other condition which might be of pathological importance.

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DISCUSSION

Guy Manson, Mattei Building, Fresno — That an acute gonorrheal urethritis is not a trivial affair has long been recognized by the medical profession. But to get the layman to realize this is often a very difficult matter. There is always some well-meaning friend on hand who has cured himself in a week's time with some patent medicine and is ready

to give your patient all the advice he needs. This often prevents the close co-operation necessary in handling these cases. Until we can find some way to compel the drug clerk to keep his hands off these cases, this will always be the case.

There is no difference of opinion regarding proper diet, rest, and abundance of fluid, but whether to begin at once with local treatments or not is, I believe, still a disputed question. Personally I do not believe that a weak solution of argyrol, 5 per cent or less, if carefully injected, does any harm. It allays the patient's anxiety and makes him believe everything is being done for his speedy recovery.

I think we oftentimes do not lay enough stress on the kind of syringe and the manner of giving the injection. I like to give the first injection myself, and I like to furnish the syringe myself; for I find I cannot trust the druggist to furnish the proper syringe, no matter how carefully we may specify what we want.

A properly fitting suspensory and drainage-bag is another important detail often neglected entirely by the attending physician. How often do we have patients referred to us who present themselves with a piece of cotton packed tightly under the foreskin, but who have never received any instructions at all on the matter of drainage.

I am glad to see there are some urologists who still have faith in argyrol and protargol. I have not had the success with some of the newer preparations that some have claimed, and their staining properties are most distasteful to the patient.

I thoroughly agree with the author in the necessity for thorough study, including cystoscopy, of every long standing case of bladder infection that does not clear up under treatment. These cases nearly always have an underlying kidney involvement.

In regard to pronouncing the patient cured, I doubt if a patient can be pronounced cured by simply examining specimens obtained by milking out the glands of the anterior urethra and massaging the prostate. Especially is this true if the patient is contemplating marriage. We have all seen patients who have been pronounced cured by competent men who have afterwards infected their wives, although they have had no new infection. I believe we should, whenever possible, prevent our patients from marrying for at least one year after the disappearance of all symptoms, regardless of our laboratory findings.

E. Spence DePuy, Dalziel Building, Oakland—To prevent the acute case of specific urethritis from becoming chronic, to avoid if possible the occurrence of complications, the incidence of which is high even with the best of care, and to properly manage these complications when they do occur, are serious problems.

It is pretty generally accepted at the present time that among the important therapeutic measures, rest and the copious ingestion of water are really important. Of these two it is fairly easy to get the patient to take sufficient water, but the necessary rest, for one social reason or another, is more difficult, with the result that complications are more common than they would be if so simple a measure could be enforced.

It is, of course, essential that the discharge be frequently examined for the gonococcus, for its presence or absence determines the treatment. Nonobservance of this rule and the use of astringent injections is frequently responsible for prolongation of the case into the chronic class, resultant infiltration and urethral damage, and not uncommonly complications beyond the external sphincter. Among the complications not so frequently recognized as it should be is acute seminal vesiculitis. This is a condition which, if recognized at a sufficiently early period, yields readily to proper treatment; but treatment delayed becomes difficult of cure. I feel that vas puncture and instillation of collargol into the vesicles should be done. The number of cases which have been treated in this manner, under the proper indications, is now sufficiently large that the procedure is no longer experimental and should be kept more prominently in mind.

Dr. Steinberg (closing)—Regarding the allaying of the patient's anxiety at the commencement of treatment, it might be said that if the general plan and details of management are explained at the outset, the patient will have enough to do to occupy his entire attention without the immediate administration of a local injection of a silver salt. The internal medication of codein and belladonna, as above described, in addition to the other details of early treatment, will so decrease the local urethral inflammation and diminish the discharge that the patient will then enter upon his active period of local medication with more encouragement and enthusiasm.

As to the question of the pronouncement of a final cure in these cases, it is conceded that the term "cure" is indicative of a clinical cure, after which no further active treatment is required. The case should be watched, however, and seen at periodic intervals for some months after for any sign of recurrence.

If the posterior urethra and prostate have been involved in a chronic case of infection, even though no evidence of infection can be demonstrated with repeated tests for years after, it is a question as to how nearly normal and pale pink-looking the mucous membrane of the posterior urethra ever becomes. In most of these cases that I have passed a cysto-urethroscope, the mucous membrane of the posterior urethra has appeared reddened and inflamed.

The results of improper manipulation of acute urethral inflammations are so far-reaching in character that it is imperative to make an accurate diagnosis before commencing any treatment, in order to establish, not only the extent of involvement, but also the exciting cause of the inflammatory process. A diagnosis should never be made from a cursory microscopical examination of the physical evidence of the urethral inflammation. A microscopical examination of a smear from the urethral discharge is absolutely essential at the outset in every single case.

Many cases of urethral discharge that have been treated for gonorrhea and aggravated by the administration of local anti-gonorrheal injections, have come to my attention. Microscopical examination of the urethral discharge in these cases revealed an absence of the gonococcus, and following the removal of the local injection that had been used, the discharge disappeared at once. More extensive examination in these cases usually reveals an infection in the posterior urethra and prostate of a non-specific origin which requires particular attention to those parts, and not the handling of such a case by the peremptory administration of an anterior urethral injection without further study of the case, including microscopical examination of the urethral discharge.

Causes of Indigestion—Normally the digestive powers are equal to the work demanded of them—that is, the digestion of the food. The equilibrium of the digestion may be disturbed by a decrease in the powers of digestion or by an increase in the work to be done in digestion. The decrease in the powers of digestion may be due to overfatigue, either physical or mental, to disease outside of the digestive tract, and to disease of the digestive tract. The increase in the work to be done in digestion may be due to improper methods of eating, to too much food otherwise proper, or to improper food.—(John Lovett Morse, Journal Iowa State Medical Society, October, 1923.)